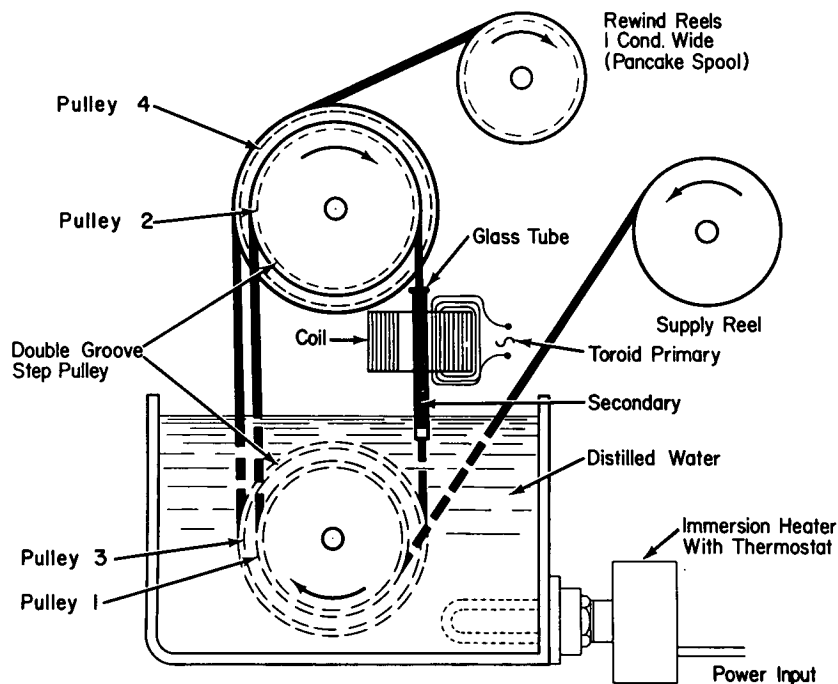


# NASA TECH BRIEF



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## Conditioning Flat Conductors for Flat Conductor Cable Production



### The problem:

To provide an apparatus for processing flat conductors before the conductors are laminated into flat conductor cable. The precision spacing of flat conductor cables requires that the conductors be straight (no kinks and bends), uniform in cross-sectional area, and annealed.

### The solution:

An apparatus that will straighten, anneal, clean, and apply a tension to stretch the cable approximately one percent to assure a uniform cross-sectional area.

### Method of operation:

The conductor is reeled from a supply spool, around pulleys 1 and 2 and forms the secondary coil of a transformer. The conductor passes through distilled water that is temperature-controlled by a thermostat and immersion heater and through a toroid coil. As the conductor (heated as the secondary circuit of the transformer) enters the water, steam is developed to perform the cleaning action. Quenching and annealing also take place. The conductor passes over four grooved pulleys. Pulleys 3 and 4 have one percent larger diameter than pulleys 1 and 2, causing the conductor to be stretched by one percent. The slight stretching assures that the conductor is straight and

(continued overleaf)

uniform. To prevent new deformations and defects, the conductor is wound onto a spool having the width of one conductor only. This spool is used as a dispenser during cable production.

**Patent status:**

Title to this invention has been waived under the provisions of the National Aeronautics and Space Act

[42 U.S.C. 2457 (f)] to the Schjeldahl Company, Northfield, Minnesota 55057.

Source: G. T. Schjeldahl Company  
under contract to  
Marshall Space Flight Center  
(MFS-20127)